



MEMORANDUM

Department of Consumer & Industry Services
Kathleen M. Wilbur, Director

DATE: January 31, 2000

TO: Life Support Agencies
Medical Control Authorities

FROM: John F. Hubinger
Emergency Medical Services Section

SUBJECT: Maximizing the Benefit of Automated External Defibrillators

A. Background

Michigan has recently passed legislation which affords civil liability protection to individuals who render cardiopulmonary resuscitation or who provide emergency services using the automated external defibrillators (AED). The conditions under which such protection is granted are spelled out in Act 173 of P.A. 1999. A copy is attached for your reference. AEDs have been used for years by Emergency Medical Service (EMS) agencies to treat patients with out-of-hospital cardiac arrest. Previous studies on the layperson use of AEDs have shown benefit, by police officers as a part of an EMS system, airline flight attendants, casino security guards, and other laypersons in specific circumstances. The EMS community has a long history of experience with AEDs and with the treatment of cardiac arrests that occur in the community. AEDs are promising additions to the community, and may save lives in Michigan. The State Emergency Medical Services Coordination Committee (SEMSSCC) has advised the Department on how to maximize the benefit of AED programs in our state. This memo sets forth recommended practices for maximizing the benefits of AED and is based upon the recommendations of the SEMSSCC.

B. Recommendations

It is clear that for AEDs to work, they must be integrated into the larger system of Emergency Care in the community.

There are six areas which must be addressed if an AED program is to be successful and improve the chance of survival for victims of cardiac arrest:

1. Potential users of AEDs need to be identified, trained, and provisions made for re-training. Although these machines continue to advance in ease-of-use, there still remain issues of fundamental technical and cognitive knowledge that must be required of users, including proficiency in cardiopulmonary resuscitation (CPR). Mandated CPR training reinforces the importance of early access to the EMS system as well as providing skills which "buy time" for the patient during the interval from collapse to defibrillation. Also, despite the fact that the devices are relatively straightforward to use, the situations for use are extraordinarily stressful, and are distinctly uncommon. Few operators will be likely to experience a cardiac arrest more than once in a five year period. For that reason, adequate training and scheduled consistent refresher training are a must for all potential users.

2. AEDs are medical devices and should only be used under the direction of a physician. Medical direction of acquisition and use of a defibrillator is important to assure its appropriate deployment and usage.
3. AEDs in public places will not be used on a frequent basis. Therefore, the defibrillator must be regularly maintained, batteries must be tested for charge and the device tested according to manufacturer's guidelines. Another item of program planning will require that a balance be struck between having the device secure and readily accessible.
4. These devices have been shown to be very effective in the identification of VF and delivering a countershock when this rhythm is identified. However, a system must be in place to perform quality review of all incidents where a defibrillator is used and all possible cardiac arrests at a site where a device is in place. Quality review must include a review of the actual device performance, but equally important, review the human performance surrounding the use of the device. As most EMS systems perform this sort of review on a routine basis after a cardiac arrest, planning of device use should include discussion with the local EMS system to participate in the evaluation of device use, including electronic and taped records.
5. Although technology tremendously impacts all of our lives, it is clear that devices don't save lives, people save lives. The coordination of the continuum of care for a cardiac arrest patient offers the best chance for survival. To provide this coordination, AED programs must articulate and coordinate with the EMS system in the community. Early activation of the EMS system through 911, at the time of arrest recognition, is crucial to the survival of many cardiac arrest victims. Prompt CPR and airway management are also vital to support a patient. Advanced Life Support care when available is important for further treatment of the cardiac arrest victim.
6. The initiation of the AED program should include provision for notifying the local EMS system of its existence, and plan for coordination of response, patient care, transport and quality review of the incident.

C. Conclusion

The SEMSCC and the Department are optimistic regarding the potential for improved public health that enhanced access to defibrillators can provide. It is clear, however, that the best outcomes for patient care occur when care is coordinated from incident recognition to definitive care in the hospital. AEDs in Michigan must work with local EMS systems to fulfill the promise they offer.

Attachment